

# Geometry CP

## Chapter 9

### AREA

---

Hunt/Scully

Name: \_\_\_\_\_

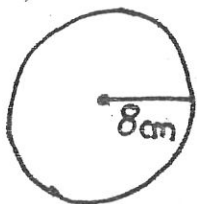
Name: \_\_\_\_\_

Date: \_\_\_\_\_

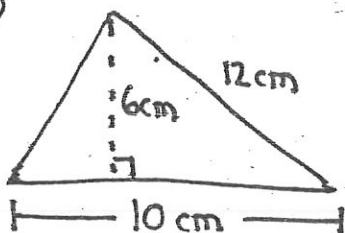
## AREA of POLYGONS and CIRCLES

Directions: Find the area of each shape below. Set-up your work.

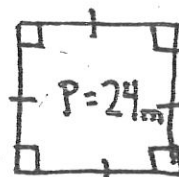
①



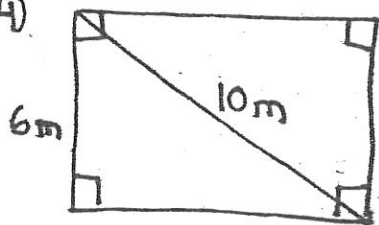
②



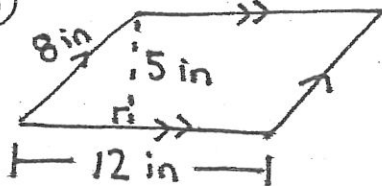
③



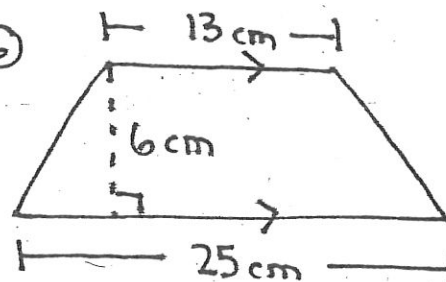
④



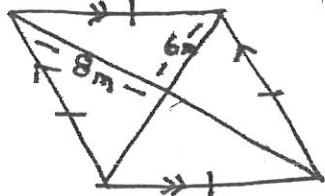
⑤



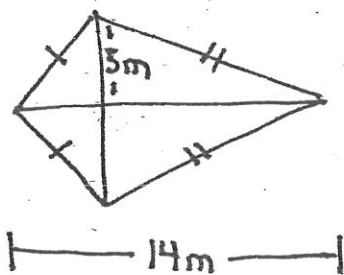
⑥



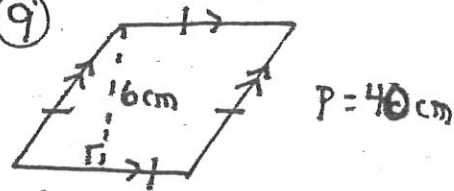
⑦



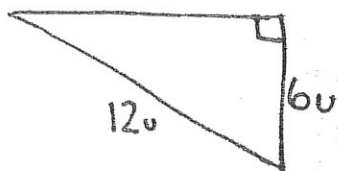
⑧



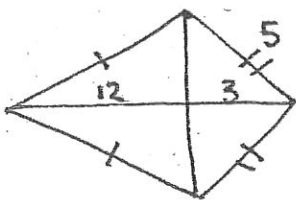
⑨



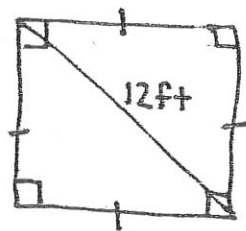
10



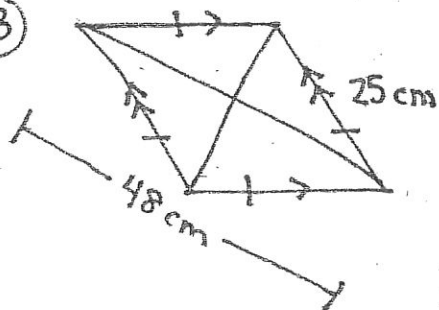
11



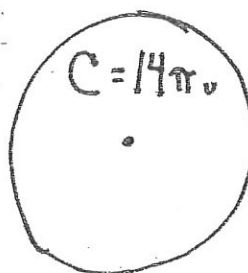
12



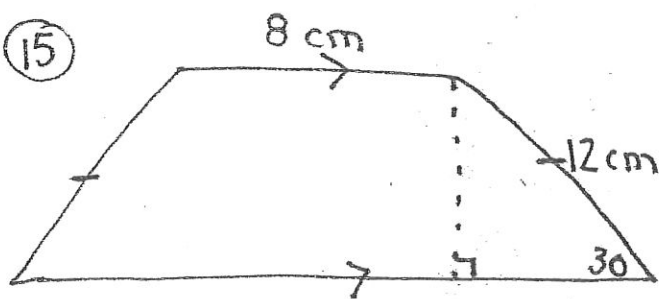
13



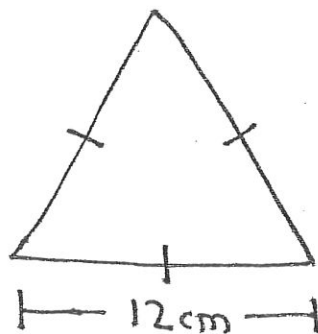
14



15

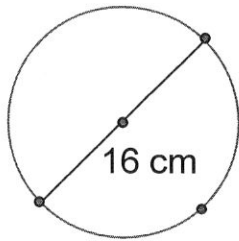


16



**Practice with Circles:**

**Example 1: Find the Circumference and Area.**

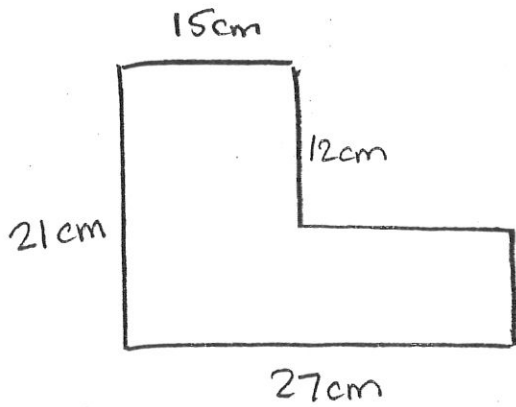


**Example 2: Find the Area of the circle if  $C = 24\pi$  meters.**

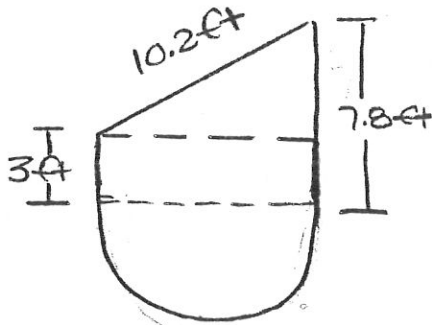
**Example 3: Find the Circumference if  $A = 9x^2\pi$  square meters.**

**Pg. 603 #2-5,10-13,34-37,46**

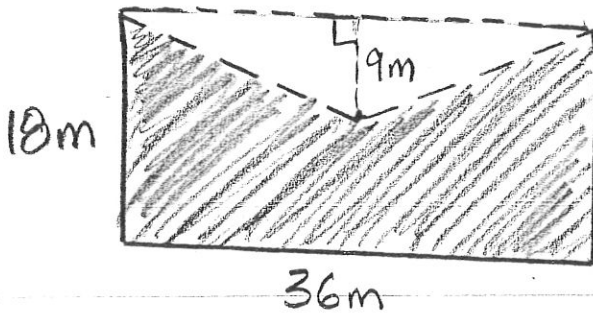
COMPOSITE FIGURES — FIGURES MADE UP OF SIMPLE SHAPES.



FIND THE AREA OF THE FIGURE



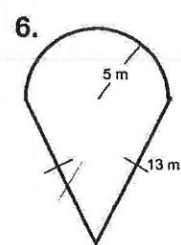
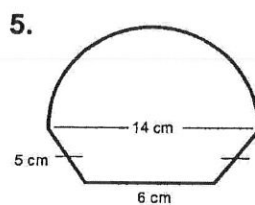
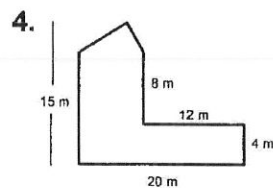
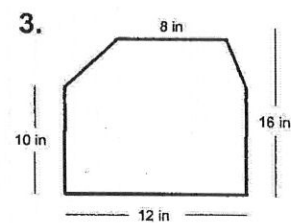
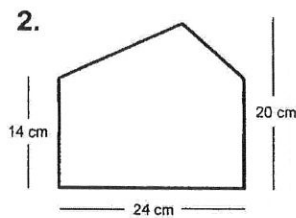
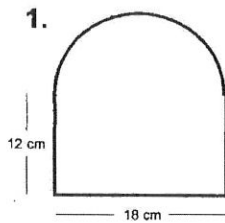
FIND THE AREA OF THE  
SHADED REGION



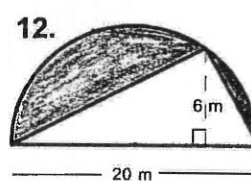
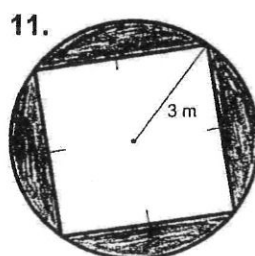
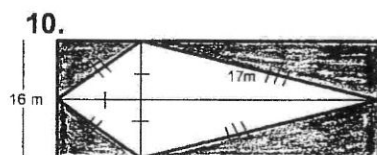
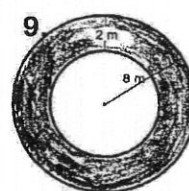
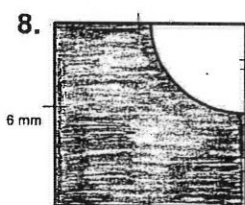
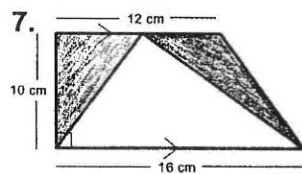
Name: \_\_\_\_\_

Date: \_\_\_\_\_

**PART 1: COMBINED FIGURES.** Find the area of the following figures by dividing them into figures that you recognize. **SHOW YOUR WORK.**



**PART 2: SHADED REGIONS.** Find the area of the shaded region.

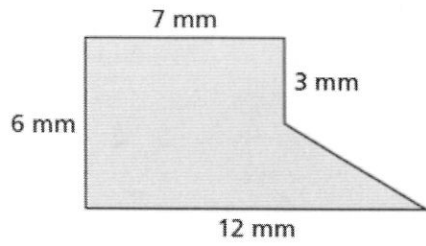


Name \_\_\_\_\_

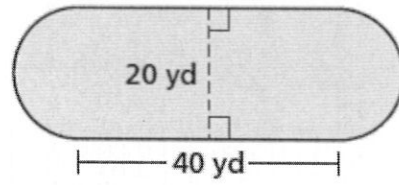
Date \_\_\_\_\_

**HOMEWORK: PG. 609 #9-12, 16-20**

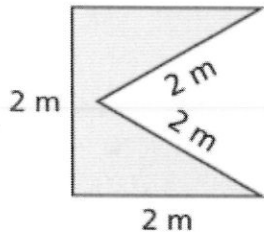
9.



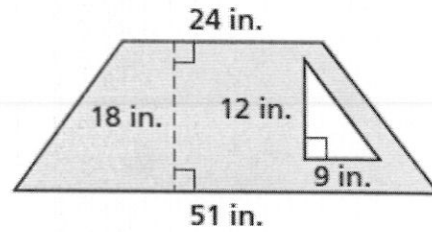
10.



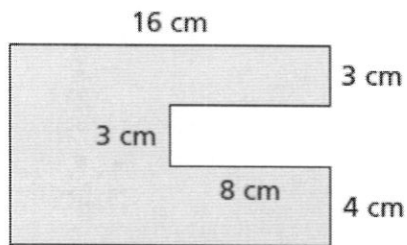
11.



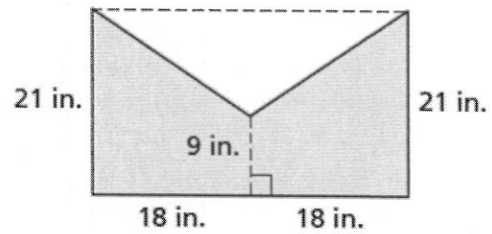
12.



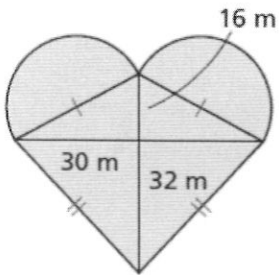
16.



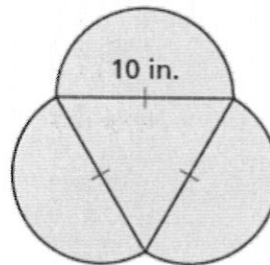
17.



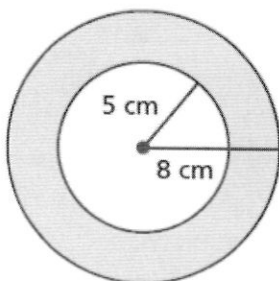
18.



19.



20.



Name \_\_\_\_\_

Date \_\_\_\_\_

## Chapter 9-2: Area of Regular Polygons

### Part 1: Definitions

Center of a polygon -- \_\_\_\_\_

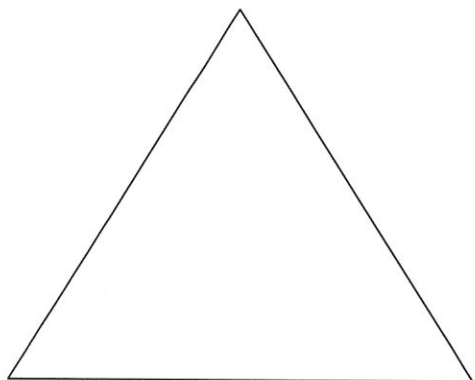
Apothem -- \_\_\_\_\_

Radius of a polygon -- \_\_\_\_\_

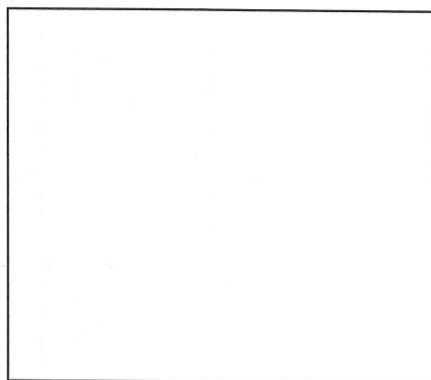
Central Angle of a polygon -- \_\_\_\_\_

Part 2: Label the Center, Apothem, and Radius of the following regular polygons.

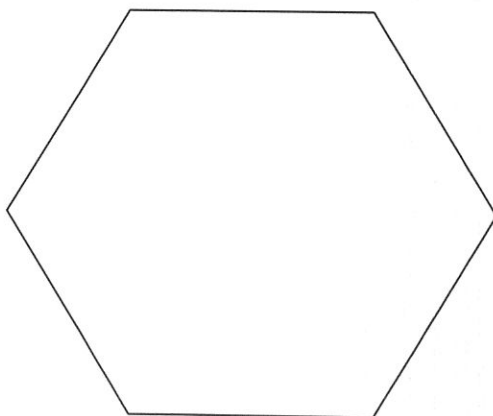
Equilateral Triangle



Square

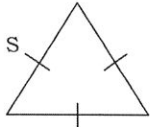


Hexagon





### Part 3: Formulas:

<b>Area of a Regular Polygon</b> <i>with apothem a and perimeter P</i>	$A = \frac{1}{2}aP$
<b>Area of an <i>Equilateral</i> Triangle</b> <i>with side S</i> 	$A = \frac{s^2 \sqrt{3}}{4}$

PS..Don't Forget  
about these.....

45-45-90 Triangles: Hypotenuse = Leg  $\sqrt{2}$

30-60-90 Triangles: Hypotenuse = 2 Short  
Long = Short  $\sqrt{3}$

Pythagorean Theorem:  $c^2 = a^2 + b^2$

Now Try These: pg 603-604 # 6, 8, 14, 26, 29

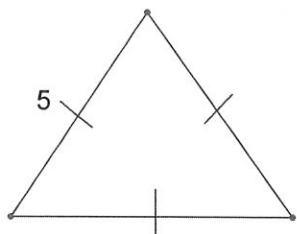
Name \_\_\_\_\_

Date \_\_\_\_\_

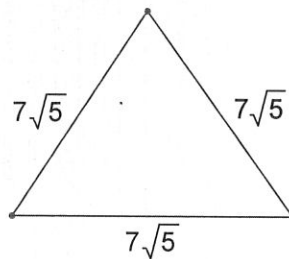
### 9.2 Practice: AREA OF REGULAR POLYGONS

Directions: Find the area of each regular polygon below. Show your work.

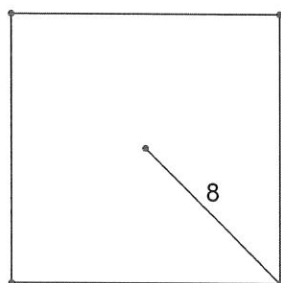
1.



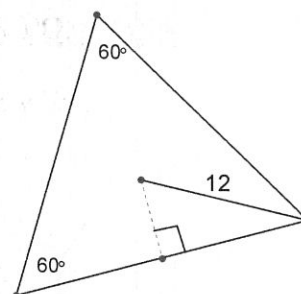
2.



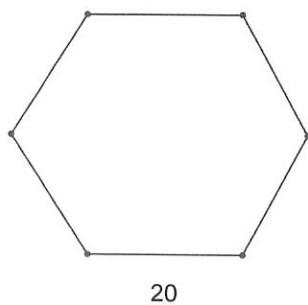
3.



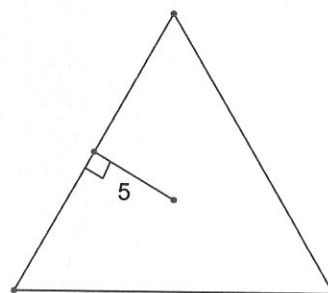
4.



5.



6.



Name: \_\_\_\_\_

Date: \_\_\_\_\_

### AREA OF REGULAR POLYGONS

**DIRECTIONS:** Draw a picture for each problem below. Show your work and solve each problem.

1. Find the length of the radius of an equilateral triangle that has sides that measure 8 inches each.

2. Find the length of the apothem of a regular hexagon with side lengths measuring:

a. 4 inches

b.  $6\sqrt{3}$  inches

3. The radius of a regular hexagon is 6 inches.

a. Find the length of each side.

b. Find the length of the apothem.

c. Find the area of the hexagon.

4. The area of a square is  $100 \text{ u}^2$ . Find the length of the apothem.

5. The area of a square is  $50 \text{ cm}^2$ . Find the length of the diagonal.

6. Find the length of the apothem of an equilateral triangle whose area is  $36\sqrt{3} \text{ m}^2$ .

7. Find the area of a regular hexagon that has a perimeter of 24 cm.

8. Find the area of an equilateral triangle with a perimeter of 21 inches.

9. Find the area of a regular hexagon with side lengths of 8 inches.

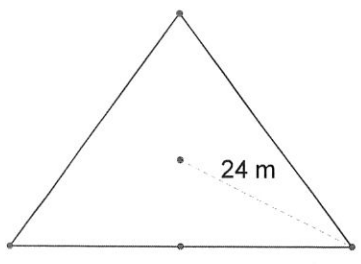
10. A square has a radius of 4 cm. Find the area.

11. A regular hexagon has an apothem that is 6 inches. Find the length of each side and then find the area.

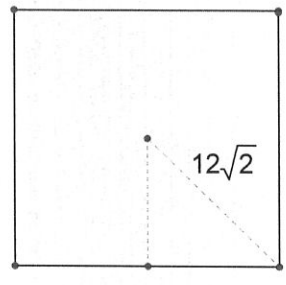
**PART 1: FIND THE AREA OF THE REGULAR FIGURES**

*(Use with powerpoint: Test review)*

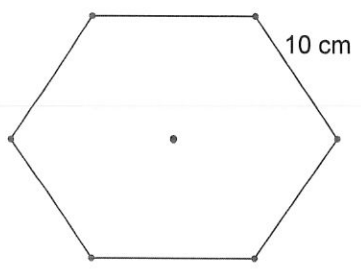
1.



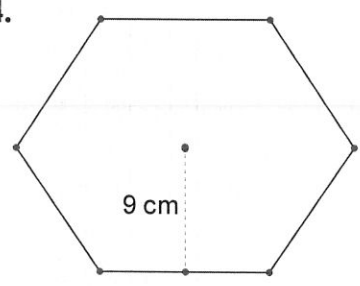
2.



3.



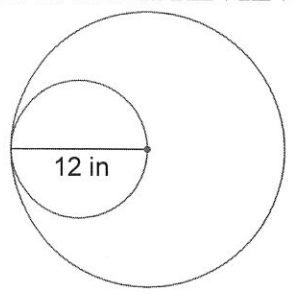
4.



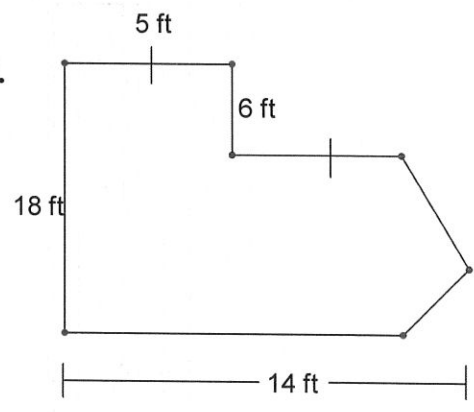
5. Find the Area of an Equilateral Triangle with sides that measure 12 cm?

**PART 2: AREA REVIEW PROBLEMS**

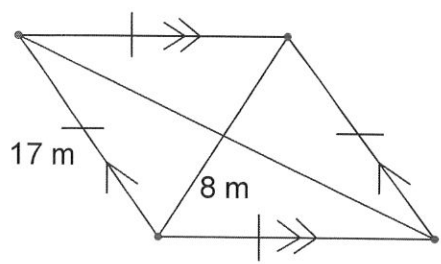
6.



7.



8.



9.

